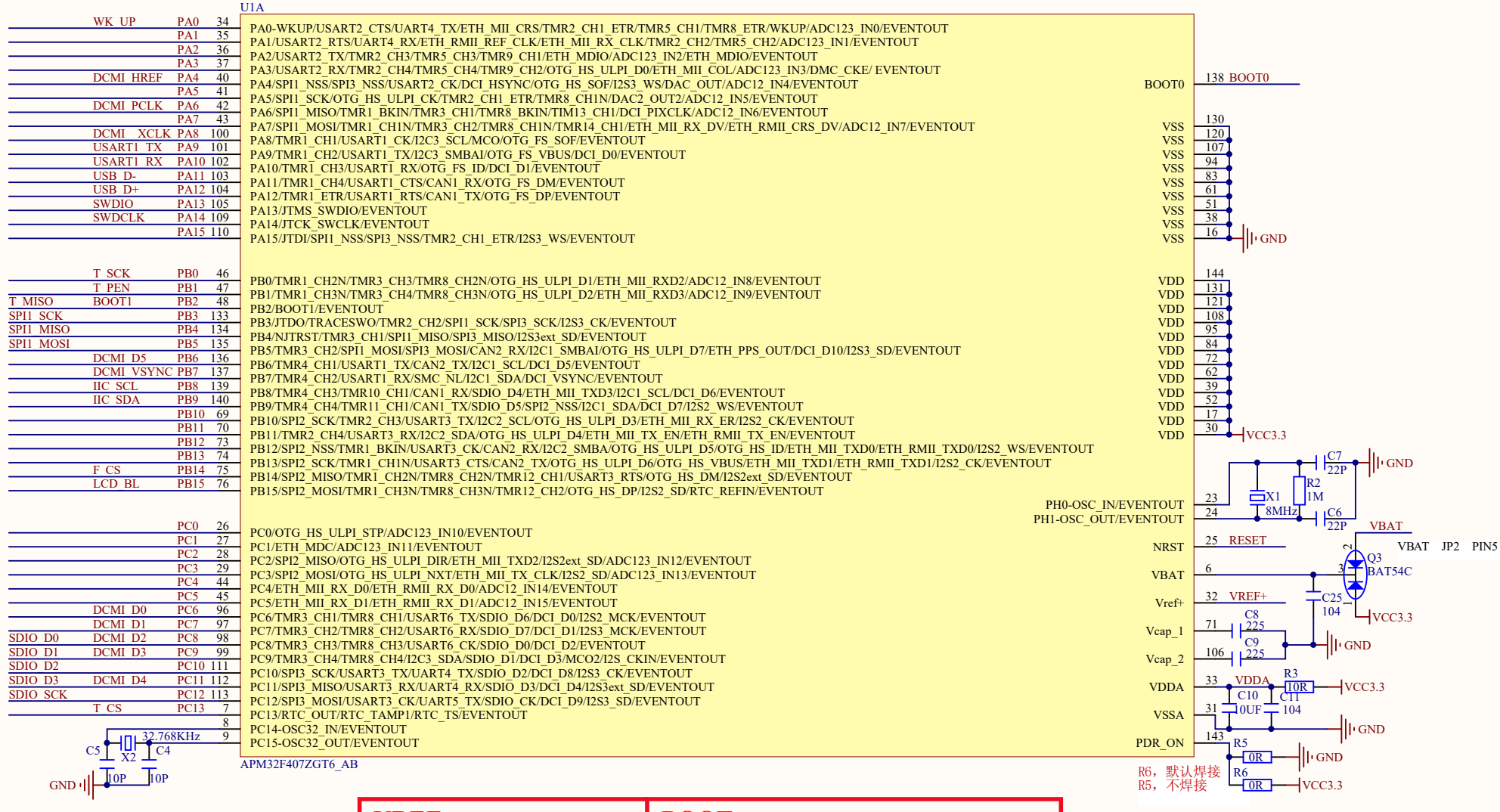
MCU_ABC



VREF

VREF通过JP1的PIN6引出，默认使用跳线帽短接JP1的PIN4和PIN6，用3.3V作参考

BOOT

BOOT0和BOOT1默认都用电阻连接到GND,从用户代码启动

BOOT0同时和KEY0连接，按下KEY0，可以把BOOT0拉高！！方便进入BootLoader模式！

Title: ATK-DNM144Z-M4	
Author: ALIENTEK	Size: SheetSize
Date: 2023/2/15	File: CORE_ABC.SchDoc
Revision: V1.0	Version: Version

正点原子

MCU_DEFG

U1B

FSMC_D2	PD0	114	PD0/SMC_D2/CAN1_RX/EVENTOUT	PF0/SMC_A0/DMC_A10/I2C2_SDA/EVENTOUT	10	PF0	FSMC_A0
FSMC_D3	PD1	115	PD1/SMC_D3/CAN1_TX/EVENTOUT	PF1/SMC_A1/DMC_A0/I2C2_SCL/EVENTOUT	11	PF1	FSMC_A1
SDIO_CMD	PD2	116	PD2/TMR3_ETR/UART5_RX/SDIO_CMD/DCI_D11/EVENTOUT	PF2/SMC_A2/DMC_A1/I2C2_SMBAI/EVENTOUT	12	PF2	FSMC_A2
	PD3	117	PD3/SMC_CLK/USART2_CTS/EVENTOUT	PF3/SMC_A3/DMC_A2/ADC3_IN9/EVENTOUT	13	PF3	FSMC_A3
FSMC_NOE	PD4	118	PD4/SMC_NOE/USART2_RTS/EVENTOUT	PF4/SMC_A4/DMC_A3/ADC3_IN14/EVENTOUT	14	PF4	FSMC_A4
FSMC_NWE	PD5	119	PD5/SMC_NWE/USART2_TX/EVENTOUT	PF5/SMC_A5/ADC3_IN15/EVENTOUT	15	PF5	FSMC_A5
DCMI_SCL	PD6	122	PD6/SMC_NWAIT/USART2_RX/EVENTOUT	PF6/TMR10_CH1/SMC_NIORD/DMC_A4/ADC3_IN4/EVENTOUT	18	PF6	
DCMI_SDA	PD7	123	PD7/SMC_NE1/SMC_NCE2/USART2_CK/EVENTOUT	PF7/TMR11_CH1/SMC_NREG/DMC_A5/ADC3_IN5/EVENTOUT	19	PF7	
FSMC_D13	PD8	77	PD8/SMC_D13/USART3_TX/EVENTOUT	PF8/TMR13_CH1/SMC_NIOWR/DMC_A6/ADC3_IN6/EVENTOUT	20	PF8	
FSMC_D14	PD9	78	PD9/SMC_D14/USART3_RX/EVENTOUT	PF9/TMR14_CH1/ADC3_IN7/SMC_CD/DMC_A7/EVENTOUT	21	PF9	LED0
FSMC_D15	PD10	79	PD10/SMC_D15/USART3_CK/DMC_DQ10/EVENTOUT	PF10/SMC_INTR/DMC_A8/ADC3_IN8/EVENTOUT	22	PF10	LED1
FSMC_A16	PD11	80	PD11/SMC_A16/SMC_CLE/USART3_CTS/EVENTOUT	PF11/DCI_D12/DMC_UDQM/EVENTOUT	49	PF11	T_MOSI
FSMC_A17	PD12	81	PD12/SMC_A17/SMC_ALE/TIM4_CH1/USART3_RTS/EVENTOUT	PF12/SMC_A6/EVENTOUT	50	PF12	FSMC_A6
FSMC_A18	PD13	82	PD13/SMC_A18/TMR4_CH2/DMC_DQ12/EVENTOUT	PF13/SMC_A7/EVENTOUT	53	PF13	FSMC_A7
FSMC_D0	PD14	85	PD14/SMC_D0/TMR4_CH3/DMC_DQ13/EVENTOUT	PF14/SMC_A8/EVENTOUT	54	PF14	FSMC_A8
FSMC_D1	PD15	86	PD15/SMC_D1/TMR4_CH4/DMC_DQ14/EVENTOUT	PF15/SMC_A9/EVENTOUT	55	PF15	FSMC_A9
FSMC_NBL0	PE0	141	PE0/TMR4_ETR/SMC_NBL0/DCI_D2/EVENTOUT	PG0/SMC_A10/EVENTOUT	56	PG0	FSMC_A10
FSMC_NBL1	PE1	142	PE1/SMC_NBL1/DCI_D3/EVENTOUT	PG1/SMC_A11/DMC_CK/EVENTOUT	57	PG1	FSMC_A11
	PE2	1	PE2/TRACECK/SMC_A23/ETH_MII_TXD3/EVENTOUT	PG2/SMC_A12/DMC_DQ15/EVENTOUT	87	PG2	FSMC_A12
	PE3	2	PE3/TRACED0/SMC_A19/EVENTOUT	PG3/SMC_A13/DMC_DQ0/EVENTOUT	88	PG3	FSMC_A13
KEY0	PE4	3	PE4/TRACED1/SMC_A20/DCI_D4/EVENTOUT	PG4/SMC_A14/DMC_DQ1/EVENTOUT	89	PG4	FSMC_A14
DCMI_D6	PE5	4	PE5/TRACED2/SMC_A21/TIM9_CH1/DCI_D6/EVENTOUT	PG5/SMC_A15/DMC_DQ2/EVENTOUT	90	PG5	FSMC_A15
DCMI_D7	PE6	5	PE6/TRACED3/SMC_A22/TIM9_CH2/DCI_D7/EVENTOUT	PG6/SMC_INT2/DMC_DQ3/EVENTOUT	91	PG6	
FSMC_D4	PE7	58	PE7/SMC_D4/TMR1_ETR/EVENTOUT	PG7/SMC_INT3/USART6_CK/EVENTOUT	92	PG7	
FSMC_D5	PE8	59	PE8/SMC_D5/TMR1_CH1N/EVENTOUT	PG8/USART6_RTS/ETH_PPS_OUT/DMC_DQ4/EVENTOUT	93	PG8	
FSMC_D6	PE9	60	PE9/SMC_D6/TMR1_CH1/EVENTOUT	PG9/SMC_NE2/SMC_NCE3/USART6_RX/EVENTOUT	124	PG9	DCMI_PWDN
FSMC_D7	PE10	63	PE10/SMC_D7/TMR1_CH2N/EVENTOUT	PG10/SMC_NCE4_1/SMC_NE3/EVENTOUT	125	PG10	FSMC_NE3
FSMC_D8	PE11	64	PE11/SMC_D8/TMR1_CH2/EVENTOUT	PG11/SMC_NCE4_2/ETH_MII_TX_EN/ETH_RMII_TX_EN/EVENTOUT	126	PG11	
FSMC_D9	PE12	65	PE12/SMC_D9/TMR1_CH3N/EVENTOUT	PG12/SMC_NE4/USART6_RTS/EVENTOUT	127	PG12	FSMC_NE4
FSMC_D10	PE13	66	PE13/SMC_D10/TMR1_CH3/EVENTOUT	PG13/SMC_A24/USART6_CTS/ETH_MII_TXD0/ETH_RMII_TXD0/EVENTOUT	128	PG13	
FSMC_D11	PE14	67	PE14/SMC_D11/TMR1_CH4/EVENTOUT	PG14/SMC_A25/USART6_TX/ETH_MII_TXD1/ETH_RMII_TXD1/EVENTOUT	129	PG14	
FSMC_D12	PE15	68	PE15/SMC_D12/TMR1_BKIN/EVENTOUT	PG15/DMC_LDQM/USART6_CTS/DCI_D13/EVENTOUT	132	PG15	DCMI_RESET

APM32F407ZGT6_AB

SRAM

U2

FSMC_A0	PF0	1	A0	I/O15	38	PD10	FSMC_D15
FSMC_A1	PF1	2	A1	I/O14	37	PD9	FSMC_D14
FSMC_A2	PF2	3	A2	I/O13	36	PD8	FSMC_D13
FSMC_A3	PF3	4	A3	I/O12	35	PE15	FSMC_D12
FSMC_A4	PF4	5	A4	I/O11	32	PE14	FSMC_D11
FSMC_A18	PD13	18	A5	I/O10	31	PE13	FSMC_D10
FSMC_A17	PD12	19	A6	I/O9	30	PE12	FSMC_D9
FSMC_A16	PD11	20	A7	I/O8	29	PE11	FSMC_D8
FSMC_A13	PG3	21	A8	I/O7	16	PE10	FSMC_D7
FSMC_A14	PG4	22	A9	I/O6	15	PE9	FSMC_D6
FSMC_A15	PG5	23	A10	I/O5	14	PE8	FSMC_D5
FSMC_A5	PF5	24	A11	I/O4	13	PE7	FSMC_D4
FSMC_A7	PF13	25	A12	I/O3	10	PD1	FSMC_D3
FSMC_A8	PF14	26	A13	I/O2	9	PD0	FSMC_D2
FSMC_A9	PF15	27	A14	I/O1	8	PD15	FSMC_D1
FSMC_A10	PG0	42	A15	I/O0	7	PD14	FSMC_D0
FSMC_A11	PG1	43	A16				
FSMC_A6	PF12	44	A17		40	PE1	FSMC_NBL1
FSMC_A12	PG2	28	A18/NC	UB	39	PE0	FSMC_NBL0
				LB	41	PD4	FSMC_NOE
			VDD	OE	17	PD5	FSMC_NWE
			VDD	WE	6	PG10	FSMC_NE3
			GND	CE			
			GND				

XM8A51216V33A

VCC3.3 R7 2R VS1 C2 10UF GND C1 10UF VS2 R8 2R R1 10K VCC3.3

LCD

JP5

32	PG12	FSMC_NE4	16	PE15	FSMC_D12
31	PF12	FSMC_A6	15	PD8	FSMC_D13
30	PD5	FSMC_NWE	14	PD9	FSMC_D14
29	PD4	FSMC_NOE	13	PD10	FSMC_D15
28		RESET	12	PB15	LCD_BL
27	PD14	FSMC_D0	11		
26	PD15	FSMC_D1	10		VCC3.3
25	PD0	FSMC_D2	9		
24	PD1	FSMC_D3	8		GND
23	PE7	FSMC_D4	7		
22	PE8	FSMC_D5	6	PB2	T_MISO
21	PE9	FSMC_D6	5	PF11	T_MOSI
20	PE10	FSMC_D7	4	PB1	T_PEN
19	PE11	FSMC_D8	3	PC13	T_CS
18	PE12	FSMC_D9	2	PB0	T_SCK
17	PE13	FSMC_D10	1		

VCC5 C28 104 GND VCC3.3 C29 104 GND

IO

JP1

GND	1 2	VCC3.3	
RESET	3 4		
PA1	5 6	VREF	
PC3	7 8	PA2	
PA3	9 10	PC2	
PA5	11 12	PA4	
PC4	13 14	PA7	
PB0	15 16	PC5	
PB2	17 18	PB1	
PF8	19 20	PF11	
PF6	21 22	PF7	
PB13	23 24	PB12	
PD11	25 26	PF5	
PD13	27 28	PD12	
PE11	29 30	PF13	
PE12	31 32	PE10	
PE14	33 34	PE13	
PE8	35 36	PE9	
PD15	37 38	PE7	
PD14	39 40	PE15	
PD9	41 42	PD8	
PF4	43 44	PD10	
PF2	45 46	PF3	
PF0	47 48	PF1	
PB15	49 50	PF12	

JP2

VCC5	1 2	GND	
VBAT	3 4	PB4	
PG14	5 6	PG13	
PG12	7 8	PG11	
PE3	9 10	PE2	
PE5	11 12	PE6	
PC0	13 14	PC1	
PE1	15 16	PE0	
PB7	17 18	PG10	
PG9	19 20	PD5	
PD4	21 22	PD3	
PD1	23 24	PD0	
PA15	25 26	PB10	
PB11	27 28	PB3	
PB5	29 30	PB6	
PA6	31 32	PA12	
PA11	33 34	PG8	
PG7	35 36	PG6	
PC9	37 38	PC8	
PA8	39 40	PC12	
PD2	41 42	PC11	
PC10	43 44	PG15	
PD7	45 46	PD6	
PC7	47 48	PC6	
	49 50		

OLED&CAMERA

JP4

	1	VCC3.3	C3 104 GND
	2		
PB7	3	DCMI_VSYNC	
PD6	4	DCMI_SCL	
PA4	5	DCMI_HREF	
PD7	6	DCMI_SDA	
PG15	7	DCMI_RESET	
PC6	8	DCMI_D0	
PC7	9	DCMI_D1	
PC8	10	DCMI_D2	
PC9	11	DCMI_D3	
PC11	12	DCMI_D4	
PB6	13	DCMI_D5	
PE5	14	DCMI_D6	
PE6	15	DCMI_D7	
PA6	16	DCMI_PCLK	
PA8	17	DCMI_XCLK	
PG9	18	DCMI_PWDN	

SWD

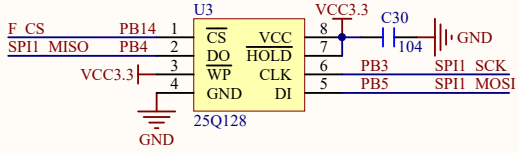
JP6

	1		VCC3.3
SWDIO	2		
SWDCLK	3		
	4		GND

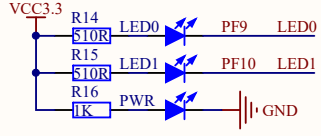
Title: ATK-DNM144Z-M4	
Author: ALIENTEK	Size: SheetSize
Date: 2023/2/15	File: CORE_DEFG.SchDoc
Revision: V1.0	Version: Version

正点原子

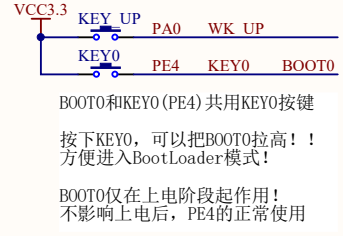
FLASH



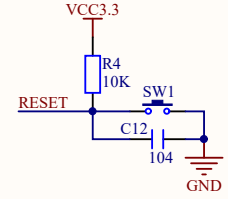
LED



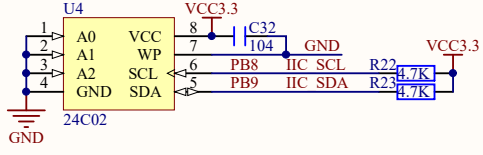
KEY



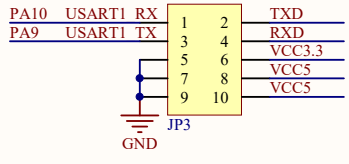
RESET



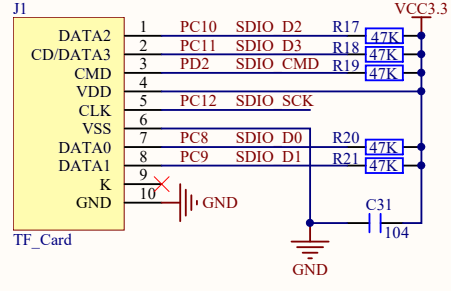
EEPROM



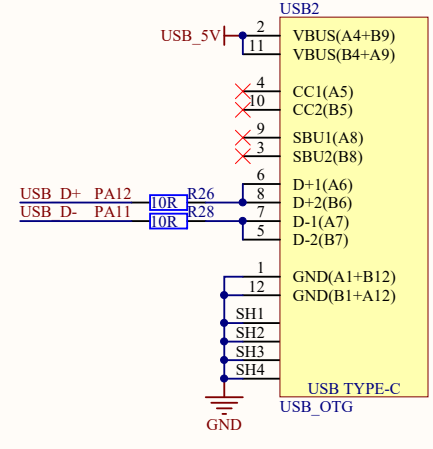
USB_UART & VOUT



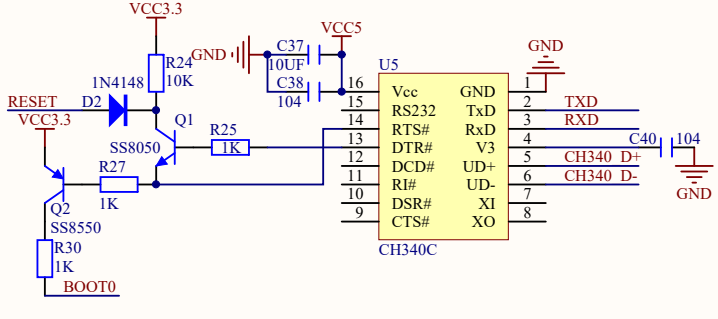
TF CARD

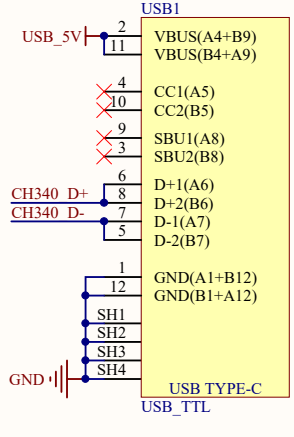


USB OTG

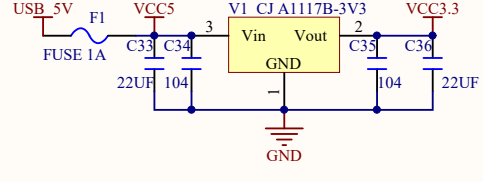


USB UART & USB POWER



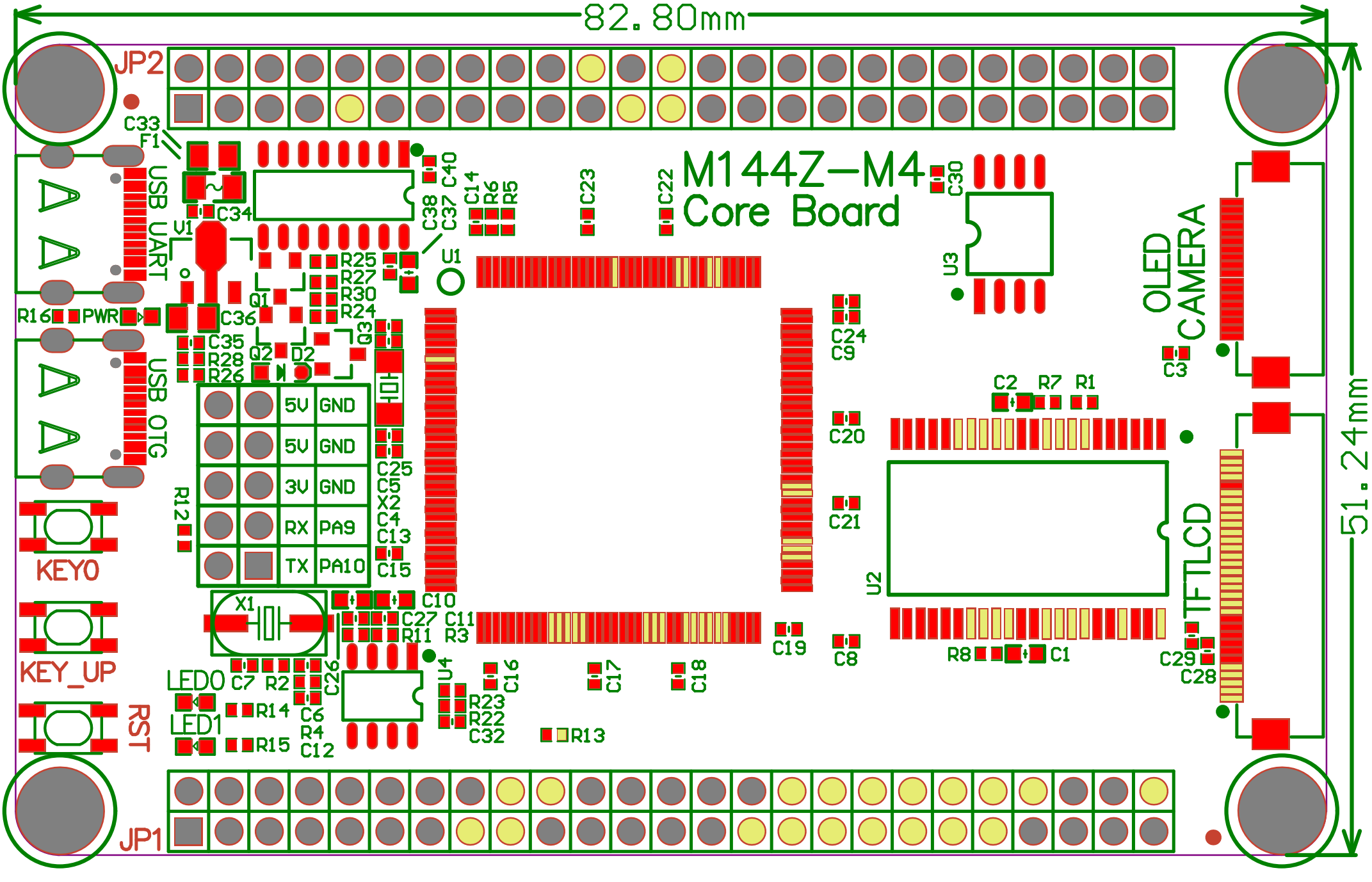


LDO



Title: ATK-DNM144Z-M4	
Author: ALIENTEK	Size: A4
Date: 2023/2/15	File: DEVICE.SchDoc
Revision: V1.0	Version:

正点原子


82.80mm
51.24mm
M144Z-M4
Core Board
JP2
JP1
USB UART
USB OTG
OLED
CAMERA
TFTLCD
KEY0
KEY_UP
RST
PWR
LED0
LED1
HDR
5V
GND
3V
RX
PA9
TX
PA10
U1
U2
U3
U4
X1
X2
F1
Q1
Q2
Q3
D2
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
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